

Amendments to the Claims:

This Listing of Claims replaces all prior versions and Listings of Claims in the application.

Listing of Claims:

1. (Currently Amended) A method of determining a refractive index of an object compared to a refractive index of a surrounding medium, said method comprising:
 exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength;
 detecting said interference forming a hologram;
 analyzing the hologram for phase information; and
 ~~determining if the refractive index of the object is higher or lower than the refractive index of the surrounding medium based on said phase information~~
 wherein said object comprises particles of a first substance having a first refractive index and a second substance having a second refractive index and a medium having a refractive index between said first and second refractive index,
 said method further comprising:
 counting the number of particles having a first refractive index and counting the number of particles having a second refractive index in a specific area of said object,
 and said method further comprising:
 separating particles in a particle blend and counting particles in a particle blend and/or calculating the volume ratio between particles in a particle blend.
2. (Previously Presented) The method as claimed in claim 1, wherein the step of analyzing and the step of determining are performed by a computer.
3. Cancelled.
4. (Currently Amended) A device for determining refractive index of an object compared to a refractive index of a surrounding medium, said device comprising:

a laser source for exposing said object to a laser object beam and letting the object beam interfere with a laser reference beam, wherein said laser object beam and said laser reference beam have the same wavelength;

a detector for detecting said interference forming a hologram;

a computer for analyzing the hologram for phase information, wherein said device is arranged for performing the method according to claim 1 and for determining if the refractive index of the object is higher or lower than the refractive index of the surrounding medium based on said phase information.

5. Cancelled.

6. (Previously Presented) A computer program arranged on a computer readable medium for execution on a computer, the computer program including instructions which, when executed, perform the method of claim 1.

7-8. Cancelled.